

What is claimed is:

1. A system for controlling a safety system of an automotive vehicle comprising:

a first controller generating a first control signal;

5 a second controller generating a second control signal;

an arbitration module coupled to the first controller and the second controller, said arbitration module choosing the higher of the first control signal and the second control signal to a final control signal;
10 and

the safety system coupled to the arbitration module, said safety system operated corresponding to the final control signal.

15 2. A system as recited in claim 1 wherein the first controller comprises a transition controller.

3. A system as recited in claim 1 wherein the second controller comprises a proportional-derivative controller.

20 4. A system as recited in claim 1 wherein the second controller comprises a proportional-integral derivative controller.

5. A system as recited in claim 1 wherein the second controller comprises a proportional-integral-
25 derivative-double derivative controller.

6. A system as recited in claim 1 wherein the first signal and the second control signal comprise pressure signals.

7. A system as recited in claim 1 wherein
5 the first signal and the second control signal comprise pressure request signals.

8. A system as recited in claim 1 wherein the safety system comprises a rollover control system.

9. A system of operating a rollover control
10 system of an automotive vehicle comprising:

a first controller generating a first pressure control signal;

a second controller generating a second pressure control signal;

15 an arbitration module coupled to the first controller and the second controller, said arbitration module choosing the higher of the first pressure control signal and the second pressure control signal to a final pressure control signal; and

20 the safety system coupled to the arbitration module, said safety system operated with the final pressure control signal.

10. A system as recited in claim 9 wherein the first controller comprises a transition controller.

11. A system as recited in claim 9 wherein the second controller comprises a proportional-derivative controller.

12. A system as recited in claim 9 wherein
5 the second controller comprises a proportional-integral derivative controller.

13. A system as recited in claim 9 wherein the second controller comprises a proportional-integral-derivative-double derivative controller.

10 14. A system as recited in claim 9 wherein the first signal and the second control signal comprises pressure signals.

15 15. A system as recited in claim 9 wherein the first signal and the second control signal comprise pressure request signals.

16. A system as recited in claim 9 wherein the safety system comprises a rollover control system.

17. A method of controlling a hydraulic safety system of an automotive vehicle comprising:
20 determining an angular vehicle position;
in a first controller generating a first control signal; and
when the angular position is greater than a threshold, generating a second control signal from a
25 second controller.

18. A method as recited in claim 17 wherein the threshold corresponds substantially to a linear region and non-linear region.

19. A method as recited in claim 17 wherein
5 the angular vehicle position comprises a roll angle.

20. A method as recited in claim 17 wherein the angular position corresponds to two-wheel lift.

21. A method as recited in claim 17 wherein angular position is inferred by a requested PID signal.

10 22. A method of operating a safety system in an automotive vehicle comprising:

in a non-divergent region of dynamics of the vehicle, operating the safety system with a transition controller; and

15 in a divergent region of dynamics of the vehicle, operating the safety system with a proportional-derivative controller.

23. A method as recited in claim 22 wherein the proportional-derivative controller comprises
20 a PID controller.